COMANCHE 4 User Mission Editor Manual Revised Edition

Acknowledgment

This manual has been revised by the user mission maker's community and includes various tips and tricks on how to use a lot of the items not covered in the original Novalogic version of this manual. Note: In order to understand all the elements that the editor has to offer take the time to read this manual through. If there is something you'd like to know how to do then hopefully we will have covered all the aspects of mission building on these pages. This manual is a joint effort by some of the really great mission builders who have spent time experimenting and learning the "if and then" of the events mechanism.

This Mission Editor tool is a slightly modified version of the actual tool used by NovaLogic Mission Designers. Although some of the campaign programming has been disabled, you will find this tool extremely flexible when it comes to designing your own missions.
Because mission design has so many complex components, this tool is intended for the advanced user. Use at your own risk.

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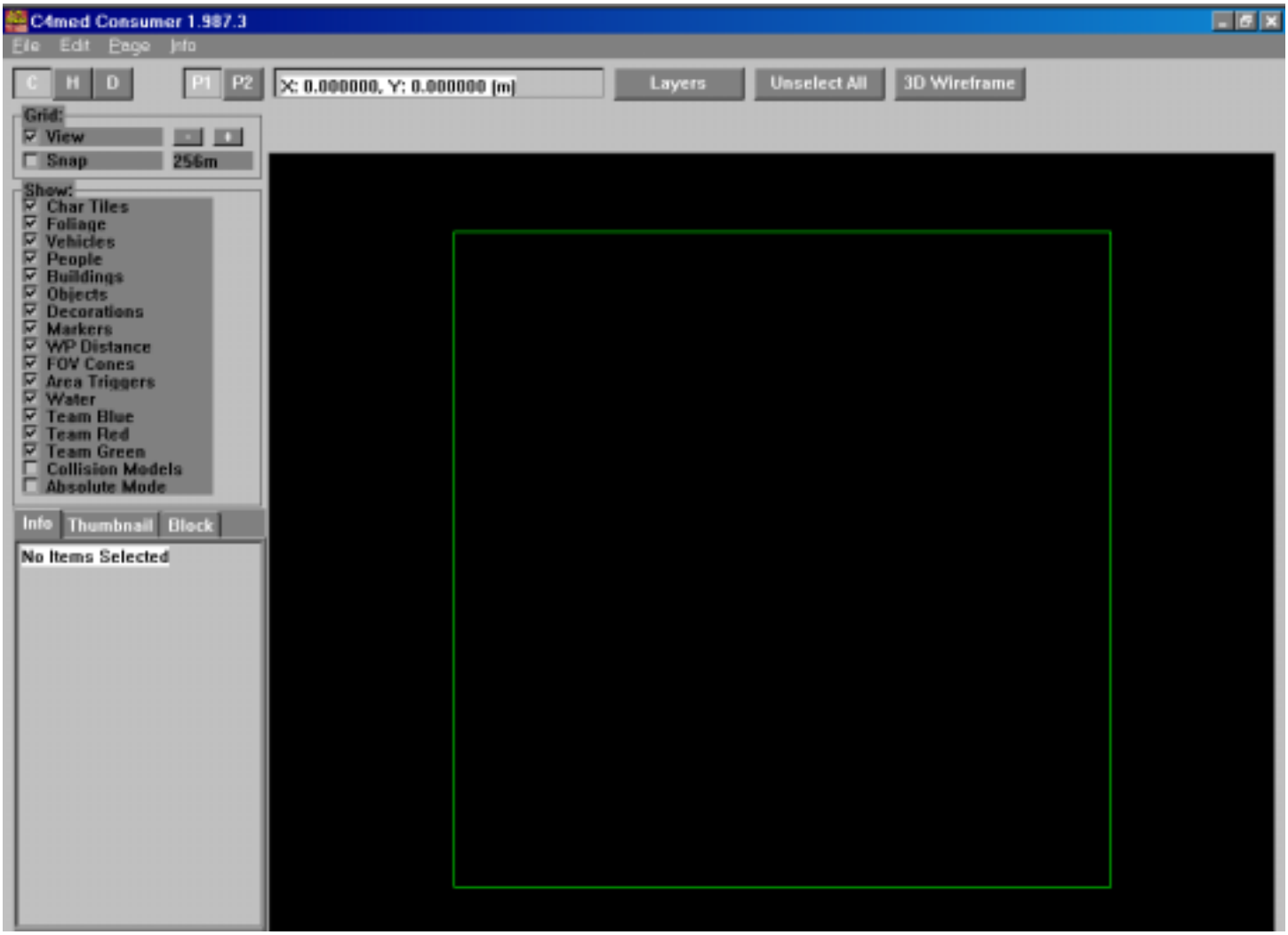
The Mission Editor Tool requires a minimum screen resolution of 800x600. For best results, we recommend that you set your resolution to at least 1024x768. It is also recommended that you have at least 160 Megs of memory free when using the tool.

Section 1: Navigating the Tool



There are a number of keyboard controls and toolbar buttons that will help to create missions more efficiently.

Mouse Commands:
Left Button – Selects or unselects an item in Select Mode or Inserts a new item in Insert Mode. You can left click on the Unselect All button or you can hit the U key to unselect all selected items. You can select more than 1 item at a time. As you select items the attributes of the most recently selected item will appear in the lower left side window in the tool. While an item is selected you can left click on the Selected Information Box in the left corner to pull up the Item Attributes window.
Left Button with SHIFT held down – Selects everything within the box you create.
Left Button with CONTROL held down – Unselects everything within the box you create.
Right Button – Brings up a menu for copying, pasting and selecting.
Right Button with SHIFT held down – Click and move right or left to quickly zoom in and out of the map.
Right Button with CONTROL held down – Centers the map at the point you clicked on

Keyboard Commands:
Keypad 2,4,6,8 - Scrolls map down, left, right and up respectively.
Page Up, Keypad 9, Keypad Plus - Zooms map in.
Page Down, Keypad 3, Keypad Minus - Zooms map out.

INSERT - Toggles between Insert Mode and Select Mode.

DELETE - Delete selected items.

ALT – Hold to use hotkey listed in the toolbar menu. For example, pressing ALT + E pulls down the Edit Menu. After that, pressing ALT + I will open the General Information window.
ARROW KEYS - Move the objects you currently have selected in very small increments. Using Control + Arrow keys will move objects in greater increments.
U - Unselects all selected items

Screen Buttons:

C – Character Map – Press this button or the F1 key to show a full color representation of the terrain.
H – Height Map – This button and the F2 key will bring up a topographical view of the terrain where the lighter the color the higher that part of the terrain. Solid dark areas are usually low, flat spots, which is good for bases or airfields.
D – Depth Map – This view simply shows the contour map of the terrain. The closer the lines are to each other, the steeper the grade. Solid black represents perfectly flat areas. You can also use the F3 key to see this map.
P1 – Page 1 – The Comanche 4 Mission Tool allows you to have two different missions open simultaneously. This feature is good for comparing missions or for copying/pasting elements out of one mission into another.
P2 – Page 2 – Press this button to display the second mission that you opened. Note you must be on this page when you open the second mission or it will replace your page 1 mission.
XY Coordinates – This gives you the grid location of the center of your screen. Click on this to type in new coordinates and the screen will center on them. The units are in meters.
Layers – This option brings up a box that allows you to select which layers you would like to see and which ones are hidden. See **Section 4** for more information on Layers.
Unselect All – This button (or the U key) will automatically unselect all items.

Grid – Items that you insert while the Snap box is checked will move to the nearest grid intersection. This is particularly useful when you want to line items up precisely. The View box will toggle the grid overlay on and off. Use the Plus and Minus symbols to increase and decrease the grid resolution (size).

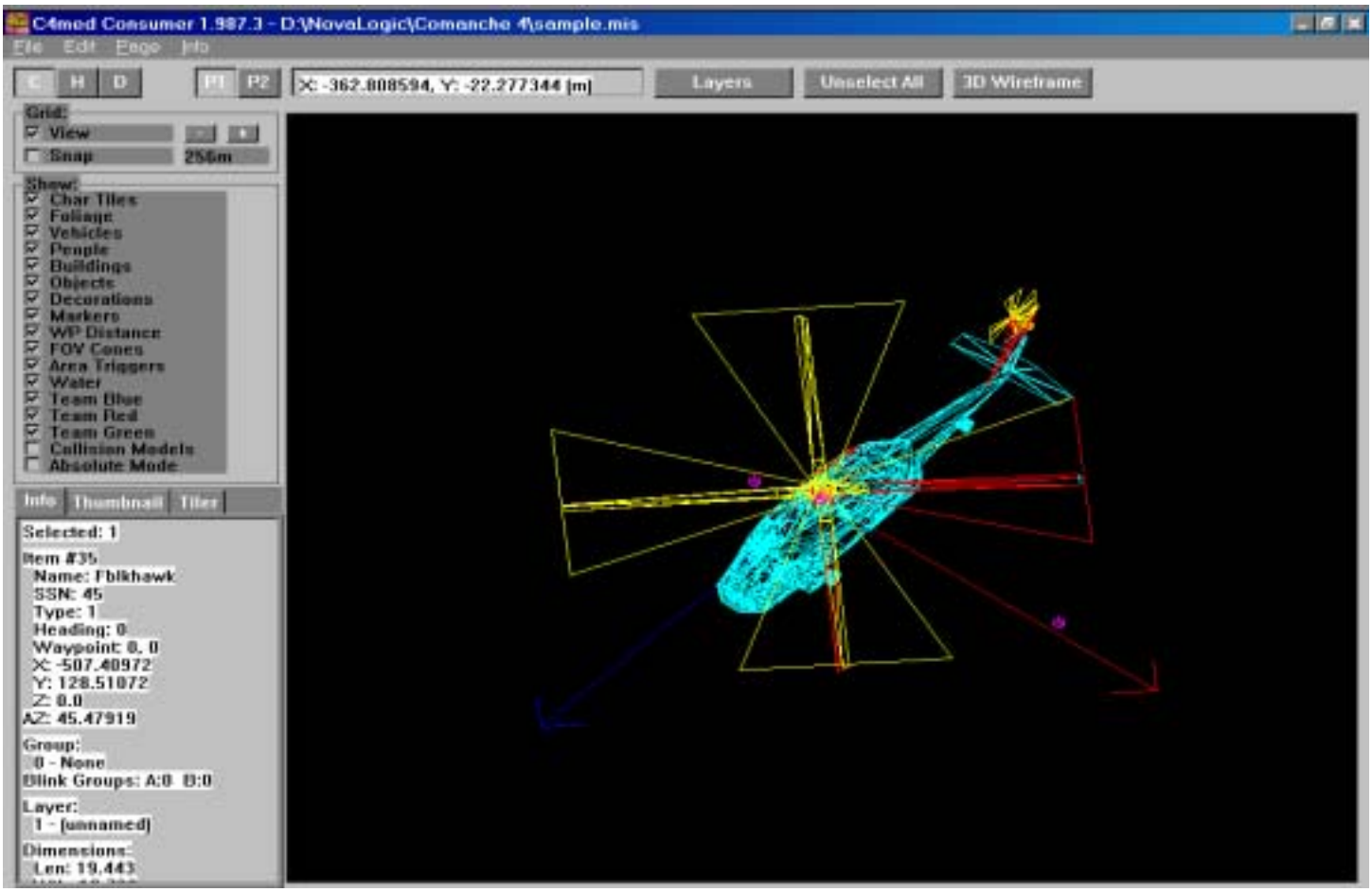
Show – By checking the appropriate boxes, you can choose which items you see and which are hidden from view. This is useful for finding specific items in a map full of various item types.

Selected Information Box – When you select an item, its most important statistics appear in the lower left corner of the screen. Click anywhere in this area to bring up the Item Attributes window.

Usable Area – Novalogic suggests that items be set inside the red box area but after user mission testing, items may be placed reasonable outside the red area with no ill effect to your playable mission.

The green box shows you the suggested area in which to make your mission. Placing items outside of the green box may make the mission excessively long.

SUBSECTION 1A: 3D WIRE FRAME



All these buttons that follow minus the CTRL and SHIFT are used from the keypad.

WHILE HOLDING DOWN SHIFT the following buttons have the effect on the wire screen view.
7 will pitch up on the terrain (not building) and 1 will pitch down.
9 will zoom in on terrain and 3 will zoom out
8 will move the AXIS of origin (where if you want to rotate from etc.) positively in the X direction.
2 will move it negatively in the X direction.
6 will move the AXIS of origin in the positive Y direction and 4 will move it in the negative Y direction.
0 will rotate around the origin counter clockwise and the, or DEL key will rotate it clockwise.

WHILE HOLDING DOWN CTRL with keypad.
4 and 6 will rotate 90 degrees at a time the objects in wire frame view
8 and 2 will select between the parts in the wire frame view

THAT MEANS YOU DONT NEED TO SELECT THE ONE YOU WANT TO VIEW/EDIT LAST!
7 will turn the terrain off.
9 will zoom out and 3 will zoom in

KEY PAD WITHOUT HOLDING ANYTHING DOWN
9 will zoom out and 3 in.
4 will move left and 6 right.
8 will move up and 2 down.
7 will turn terrain off.

Section 2: Creating a New Mission

This section outlines the minimum amount you have to do to start making a mission for Comanche 4. The following pages detail the more advanced instructions. We recommend you go through this manual in order, as some of the later steps are dependent on the previous ones being set up correctly. Refer to **Appendix C** to see an example of a simple mission.

Step 1: Start the **C4Medc.exe** program. You can find it in your Novalogic, Comanche 4 folder.

Step 2: Select **General Information** from the **Edit** menu at the top of the screen.

Step 3: Select a **Mission Terrain** and **Mission Type** from the list. If you are making a single player game, you do not have to make a selection. Now click "OK". It may take a while for the new terrain to load.

Step 4: Zoom into the map until you see only four grid squares.

Step 5: Press the Insert key to enter **Insert Mode**, select a location for the player to start and left click the mouse.

Step 6: In the **Insert Item** window, select "Markers" in the left hand column, then "Start, Player" in the right hand column, then click "OK". This sets the point where the player will start the game. If you don't place this marker, you won't be able to get into the mission!

Step 7: Press the Insert key again to change back to **Select Mode** and use the left mouse button to select the icon that you just placed. Now click anywhere in the **Selection Information** Box on the lower left of the screen. This will bring up the **Item Attributes** window for that object.

Step 8: Change the **AI Variable Group** to "1 - Blue Players" and change the **Team** to "Good (Blue)" then click "OK".

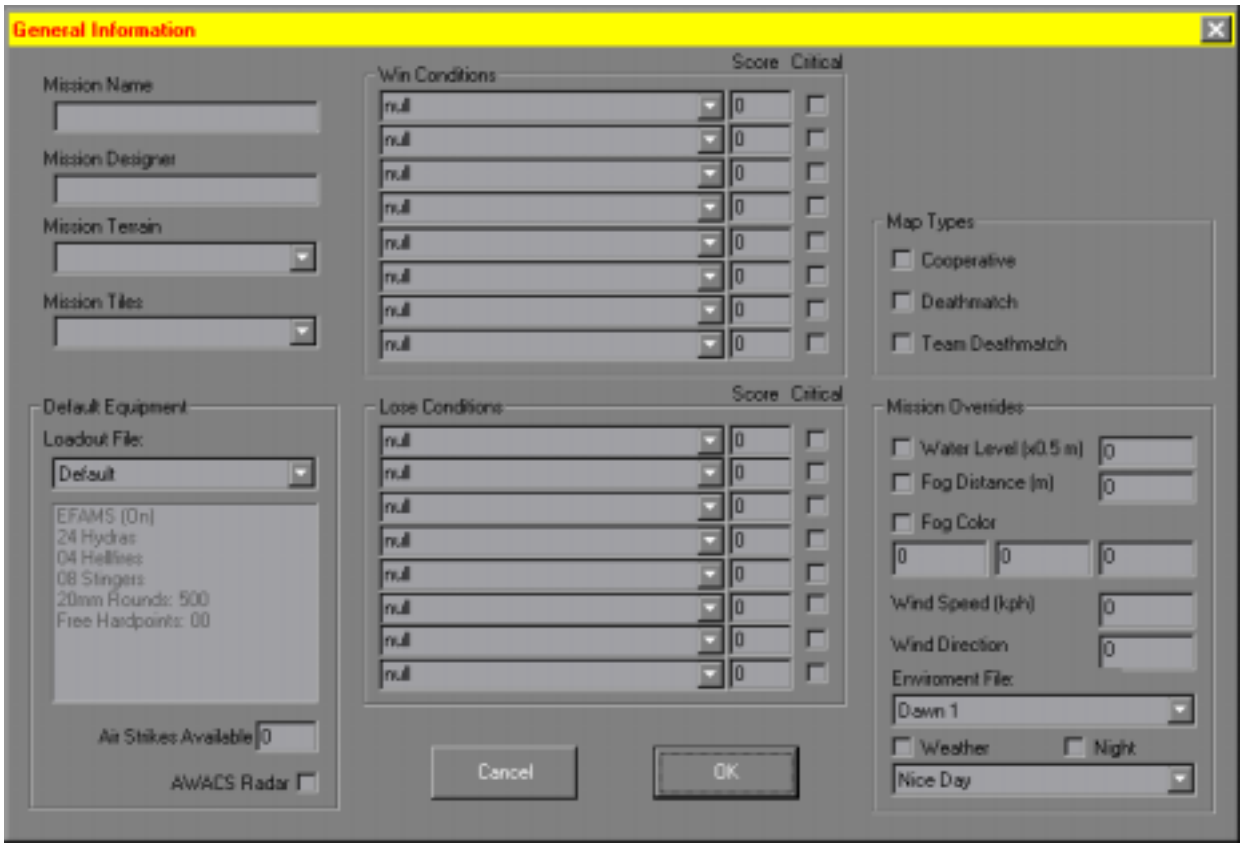
Step 9: Go to the **File** menu and select **Save** to save your mission. The name you use to save will be the name that appears in the game.

Step 10: Although you could export and play your mission at this point, it probably wouldn't be very interesting. You are now ready to begin placing enemies, setting mission events and determining mission goals. As you place them refer to the appropriate section of this manual for more details.

Don't forget to save your work often. Mission Designers will typically keep several back-ups of the files just in case they make mistakes on their current file.

Section 3: Editing General Information & Mission Briefings.

Under **Edit** in the Tool Bar, select **General Information** to set the basic mission details.



Mission Name-Name your mission here.

Mission Designer – Put your name here.

Mission Terrain – Consult with Appendix A for a list of all terrain available and select the one that best fits the location of your mission.

Mission Tiles-Are the tiles used in your mission, roads, sidewalks and paths and other various useful additions to your map. To use mission tiles click Tiler on the Info menu, bottom left hand corner of your main editor window. You should see tiles displayed. Click on the one you want then click a location on your map that you wish to place the tile. Remember to use "snap to grid" in order to place the tiles in a perfect line when placing more then one in a series. Once you've finished placing the desired tiles you need to click back on Info to be able to work with regular items again. If you wish to move tiles around or place more just click back on tile to work with the tiles again.

Default Equipment – Select the loadout that is most appropriate for the player in your mission. The player will be able to change this gear at a FARP once a mission has begun.
(Note: Be sure to place a FARP at the player's starting point or they won't be able to change their loadout.)

Air Strikes - The number in this box determines the number of artillery strikes available in the mission.

AWACS Radar - This allows the player to receive additional targeting information on their HMD from AWACS planes. Objects that cannot be seen by the Comanche's sensors, such as those behind a hill, will now appear.

Map Type – Select what type of mission you are making. For single player missions, do not select anything.

Mission Overrides – You can raise the water level in your mission (measured in 1/2 meters). We recommend that you do not go over 130 for most maps or the entire mission may take place underwater.

If you want fog in the mission, select its level here

Fog levels: (500,600,700) are fairly thick levels of fog. 1500 sets a haze in the extreme distance. This is a good value to use if you'd like to have the "horizon-arc" non visible from your horizon. 500 puts fog visibility about a quarter mile in front of your Comanche. Visibility increasing as you set values higher.

You can also alter the color of the fog by manually setting the Red, Green and Blue settings.
Fog is best when Gray (50,50,50). Other examples of colors:

Bright Red= 255,0,0 Yellow= 0,100,100
Medium Green= 0,120,0 Black= 0,0,0
Dark Blue= 0,0,25 White= 255,255,255

Be sure to click the box next to each selection to enable it.

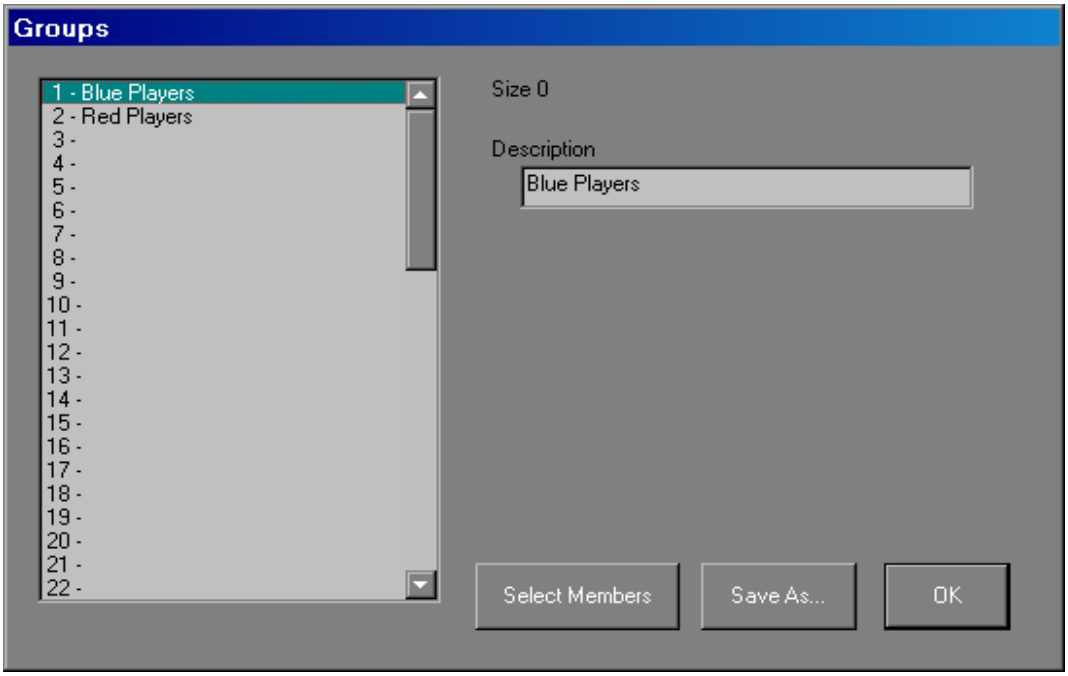
Win and Lose Conditions – You can set up to eight win or lose mission goals in this area. The win and lose conditions are for goal information text only. The actual win and lose conditions are set up through the events (see page 10).

Score - When a win or lose condition is met, the player will be awarded however many points you enter into this box.

Wind Settings – If you want wind to play a part in your mission, set the wind speed and direction here.
Light Wind= 25 kph, Heavy Wind= 50 kph, Hurricane Wind= 90 kph

Campaign Variables – (Applies to the open version of the editor) (Check Boxes 1 – 30) - These are flags that will be used to set conditions prior to the map start. They will be used to help trigger events through the course of the mission. A checked box means the Variable is set to true. No check means that it is false. Use of them will be discussed in the **Events section**. (Subsection 7b.)

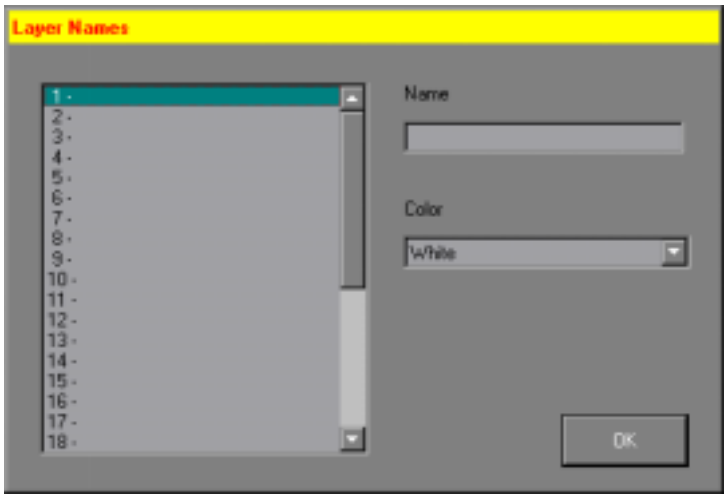
Section 4: Groups and Layers



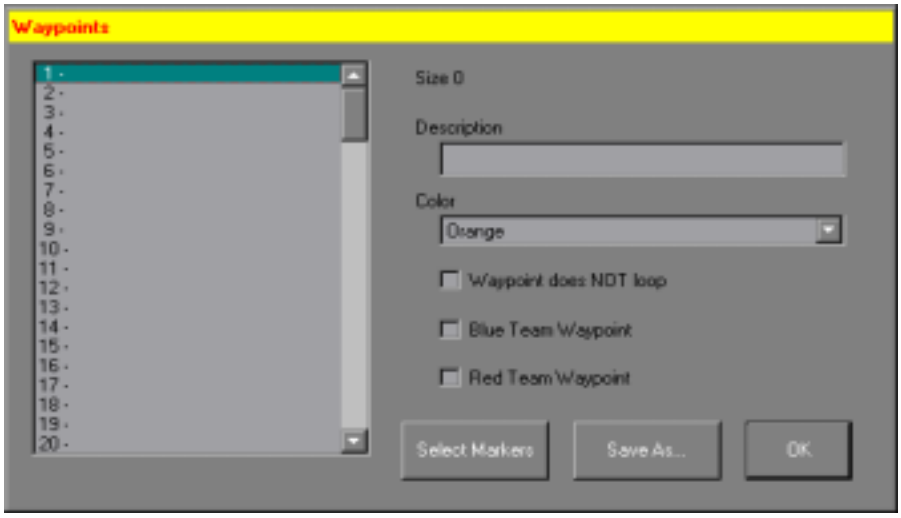
The most important part of building a good mission is organization. You can quickly get lost in a sea of meaningless numbers unless you take the time to properly label things. A little work in the beginning saves a lot of headaches later on.

Groups:
Groups are used to classify related items such as a squad of enemy helicopters and set an identity for Events and Waypoints. It is often better to give each unit its own orders so that it doesn't interfere with other units. However, placing multiple units in a group may save you time setting up the mission. You can rename the group to any name you want and automatically select all units within a group from the **Group window**, under **Edit**. Click **Save As** to save the list to a text file. Print out this file for easy reference. You'll be glad you did.
Layers

Layers:
Layers are vital to sorting out all of the items within a mission. You can create up to 32 individual layers for sorting. Under the **Edit** menu, you can change the **Layer Names** to whatever has meaning to you. Some examples of names are Enemy Base, Friendly Waypoints, and Foliage. When you just want to see a certain layer of items, hit the **Layers** button on the main screen and check the ones you want to see.



Section 5: Waypoints



Waypoint groups tell vehicles and soldiers where to go. Set up **Waypoints** under the **Edit** menu. Again you can name a waypoint group with whatever name you chose. Waypoint Size show's how many individual waypoints are part of a waypoint group. If you check the "Waypoint does not loop" checkbox, then the vehicle will come to a stop at its last waypoint. Otherwise vehicles reaching their last waypoint will attempt to head back to their first waypoint and start again. You place waypoints (found under **Markers** in the **Insert Item** window), as you would insert other objects. Click Save As to save the list to a text file for printing.

Placing Waypoints:
A waypoint is designated by two numbers, such as waypoint 1-1 or 2-4. The number before the dash indicates its Waypoint List number. The number after the dash indicates its Waypoint Number. Waypoints are numbered from 0 up, not 1 up. The "reached waypoint" triggers follow this logic. So to the trigger, the second waypoint in a list is "1" no matter what they numbered the object as.

Setting up a waypoint list:
Go to Edit in the menu and then select **Waypoints.**
Select waypoint list 2. Click in the **Description** box and type "Enemy's Waypoints".
Below that is a box to select a **color** for the lines connecting the waypoints. Select a color if you feel like it.
Below the Color box is a small check box. This determines whether or not your waypoint list will loop. We don't want our first waypoint list to loop. Click on it so that it is checked, then click **OK**.
Go to **Insert Mode** by pressing the Insert key.
Click on the map somewhere near your enemy to add the first waypoint.
In the **Insert Item** window, click on **Markers** then select waypoint.
Click somewhere else on the map to place your next waypoint.
Notice that **Markers** and **waypoint** are already selected. Just click on OK.
Repeat steps 8 and 9 a couple more times.
Get out of **Insert Mode** by pressing the Insert key.
Select all of the waypoints you just placed and then click on the **Selection Information Box** to bring up the **Item Attributes** window.
Change the Waypoint List box to "2 – Enemy's Waypoints". Click **OK**.
You should now see a series of connected lines. This is your waypoint list.
Unselect all with the U key.
Select your first waypoint and bring up the **Item Attributes** window.
Change the **Number** attribute (located near the bottom of the window in the center) to "0". Click **OK**.
Now copy that waypoint and paste the copies along the route you want to be followed. Each one should get numbered sequentially.
he waypoints are all attached to the same waypoint name and are numbered correctly, you should see them connected by a line. If the line is incorrect make sure your waypoints are numbered in the proper order from 0 on up.

One last step: Get the enemy unit to follow this new path! Select the enemy unit and ring up the Item Attributes Window. Under the **Waypoints** section, Select List “2 - Enemy’s Waypoints” like you did for the waypoints in Step 13. Click **OK**.

5a: Getting Aircraft or Ground Vehicles to move

Ground vehicles:
First off you can start by placing vehicle in desired spot on your map. By fallowing the waypoints rule explained in the manual, setup you path that you want for your vehicle to take.

Here’s a basic routine to get ground vehicle to follow a path.

Set your vehicle to a group.
Open EDIT on the editor manual and select GROUPS. Select a number you wish to assign to your vehicle, or group of vehicles. Enter a name for this group, a name that will help you identify the groups as you build your mission. Example: Enemy truck.
Next set the WAYPOINT name. Doing the same thing as you did with Groups under edit, now name your waypoint. Example: Enemy truck waypoint.
Next go to your map and highlight the vehicle your working with and then click to bring up item attributes window. In the AI Variables click Groups and scroll till you find the entry you set before to associate that vehicle with that group. Do the same with the waypoint in the waypoints section of the items attributes window.

Aircraft:
Start by placing aircraft in desired spot on your map. By fallowing the waypoints rule explained in the manual, setup you path that you want for your vehicle to take. Make sure that when using an aircraft that your waypoint loops or the plane will fallow the waypoint and when it reaches the end it will stop dead in the air.

First set your aircraft to a group.
Open EDIT on the editor manual and select GROUPS. Select a number you wish to assign to your aircraft, or group of aircrafts. Enter a name for this group, a name that will help you identify the groups as you build your mission. Example: Enemy planes.
Next set the WAYPOINT name. Doing the same thing as you did with Groups under edit, now name your waypoint. Example: Enemy aircraft waypoint.
Next go to your map and highlight the aircraft your working with and then click to bring up item attributes window. In the AI Variables click Groups and scroll till you find the entry you set before to associate that aircraft with that group. Do the same with the waypoint in the waypoints section of the items attributes window.
Then you want to set the z value of the aircraft to have it off the ground when it starts this way it will already be in flight when it fallows the waypoint. A good height to work with is 20.

With this particular set up for your aircraft or ground vehicle you will not need to set an event because a group that’s been assigned a waypoint will automatically fallow the waypoint at the start up of the game.

Getting Vehicle to move on queue:
Set up your vehicle the same way as above, except in the waypoints section of item attributes do not enter the waypoint name in that box. Leave it blank.
There are a couple of ways to trigger your vehicle to move. Below is one commonly used method.

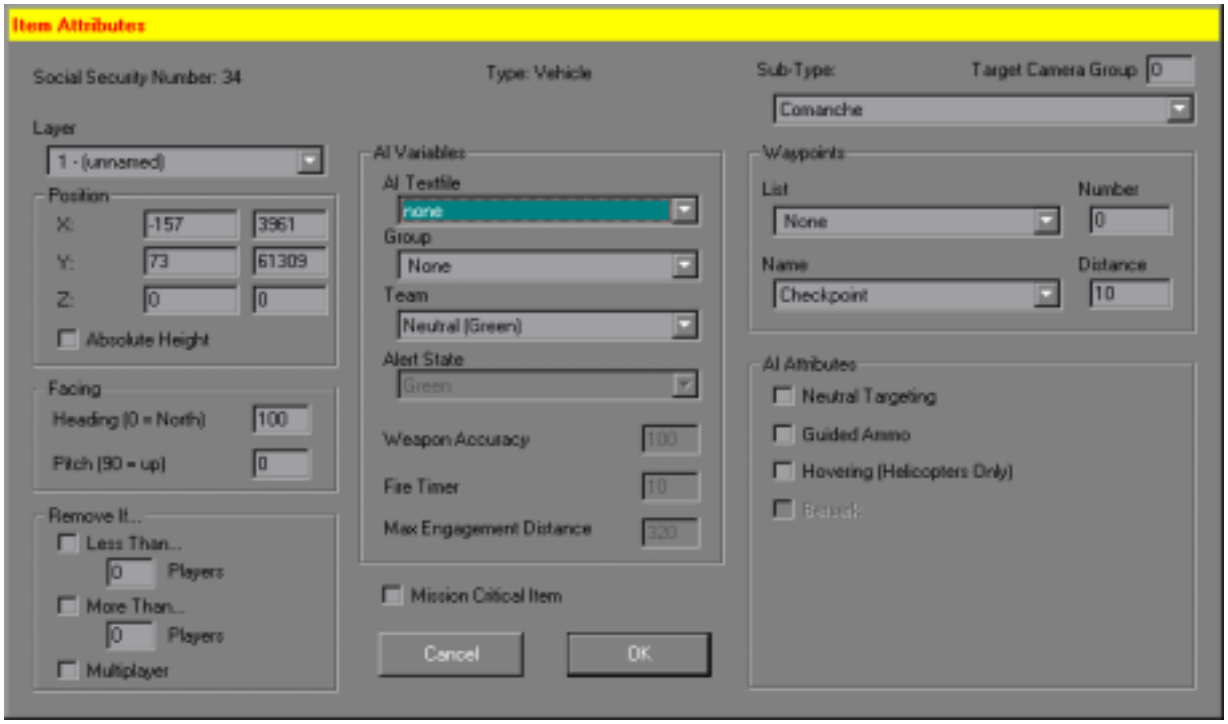
Using an area trigger. Area trigger is set and when player, or other element enters the trigger, the event will trigger and set the vehicle in motion. After setting your area trigger go to Edit and open EVENTS. Click New Event then double click New Trigger. In Trigger Type enter Group. In Trigger Condition arrow down to Group Area Trigger. Under Trigger Variables arrow down to the Group you wish to have set the trigger off when they reach it, as an example we’ll have the player trigger it. Select, 1 Blue Players. Under Area enter the trigger number you assigned to that trigger, lets say 2. Then press OK to leave that box. In the box below New Trigger double click New Action. Action Type, enter Change Group AI. Action Subtype, enter AI State. Below in the Action Variables enter Your Group and its waypoint list. Press Okay and you have entered the proper data to have your vehicle move on trigger command.

Using a waypoint to trigger your vehicle. Waypoint sets when player reaches X number waypoint. After setting your waypoints to use in this method, go to Edit and open EVENTS. Click New Event then double click New Trigger. In Trigger Type enter Group. In Trigger Condition arrow down to Group Reached Waypoint. Under Trigger Variables arrow down to the Group you wish to have set the trigger off when they reach it, as an example when the player reaches a certain number on the player waypoint list it will trigger. Select 1 Blue Player. Under Waypoint List enter the waypoint list number. Then press OK to leave that box. In the box below New Trigger double click New Action. Action Type, enter Change Group AI. Action Subtype, enter AI State. Below in the Action Variables enter Your Group and its waypoint list. Press Okay and you have entered the proper data to have your vehicle move on trigger command.

Section 6: Inserting Items

After you have established some waypoint groups, you can begin placing items. Items represent everything your player can encounter, from enemy vehicles and buildings to scenery such as trees and water towers. While in Insert Mode, left click to set a new object down. This will bring up the **Insert Item** window where you can select the type and sub-type of item that you want to place. Note that Markers include Player/team start positions, waypoints, and King of the Hill (KOTH) areas.

After placing an item, switch back to **Select Mode** by pressing the INSERT key and left click on an item. The basic statistics of the item will come up in the **Selection Information Box**. Click on this area to open up the **Item Attributes** window.



While in the **Item Attributes** window, you can only alter attributes that pertain to the unit(s) selected.
You will not necessarily need to fill in every field available.
Some fields will be grayed out, indicating that that option is not available for the current item. Note that any attribute you modified will be changed for all items currently selected (where possible).

Social Security Number (SSN): The tool automatically sets this number when an item is placed. It represents the item number of the unit. Every unit has a SSN. The SSN is also used when you are triggering actions to happen to or happen because of that specific unit.

Layer: All units belong to a layer. Selecting an appropriate layer will help you to better organize the mission. See Section 3 for more information on Layers.

Position: This is the precise coordinate of where you placed the unit on the map.

East = -X, West = X, North = Y, South = -Y Above Ground/Sea Level = Z, Below Ground/Sea Level = -Z

Be sure to properly set the Height (Z value) if you want to put objects on top of other objects (like soldiers in towers). You will likely need to adjust the second Z number to precisely place objects on tables and crates.

Absolute Height: With Absolute Height on, the Z value indicates height above sea level. With Absolute Height off, the Z value indicates height above or below the actual terrain at that spot.

Facing: This is used to change the direction an item is facing. It can be set from 0 to 360 degrees, with 0 representing North, 90 representing East, 180 representing South and 270 representing West. Pitch is the degree the object is pitched forward or backwards; something pitched at 90 will be pointed straight up rather than forward.

Remove if: This is used when changing the difficulty of a mission for multiple players. For example: If a 4 is placed in the **Remove If Less Than**… field, that particular unit would only appear in that mission if more than four player were in the multiplayer game.

Sub-type: This designates what the object is. If you change the sub-type to a different object, the attributes you set for the initial object sub-type will be retained.

AI Textfile: Chooses how the item will act. Each object should have an AI file designed and named for it. Make sure your Sub-type and AI text files match or they may not act properly.

Target Camera Group: To make objects with multiple parts, such as a boat with a person on it, appear properly in your target scope, you must assign both items the same number. Single units may remain set to 0.

Group: All Squads and Air Support are in groups. You can name groups whatever you want by clicking on **Edit** in the top left corner of the tool and then clicking on **Group**.

Team: This designates good guys, bad guys and neutral guys. Red will target/attack blue and vice-versa whether marked as goals or not. Neither blue nor red will target a neutral item.

Alert State: Selects the items initial alert status. This status can be changed through the use of events and area triggers. Green, Yellow and Red. Green makes AI's pretty relaxed. If you want a person to run then set their Alert State to Red. To walk set to Green.

Weapon Accuracy: This number represents how well the unit shoots. Lousy shots are 10 and under, good shots are around 30, great shots are anything over 50. However, anyone will hit fairly quickly at close range. Also, the longer someone continuously fires at a target, the more accurate they will get.

Fire Timer: (No accurate description)

Max Engagement Distance: determines how close an enemy must approach before the selected item will engage the enemy.

Mission Critical Item: An item such as a building that is marked, as mission critical will get a different symbol on the tactical map.

Waypoint list: This is where you assign groups to waypoints. You can name and organize waypoint lists the same as groups (Left click on **Edit** and **Waypoints**). The number field is used to number waypoints. For King of the Hill Centers adjust the Distance to increase the size of the hot zone.

AI Attributes: You can assign several different attributes to people or vehicles.

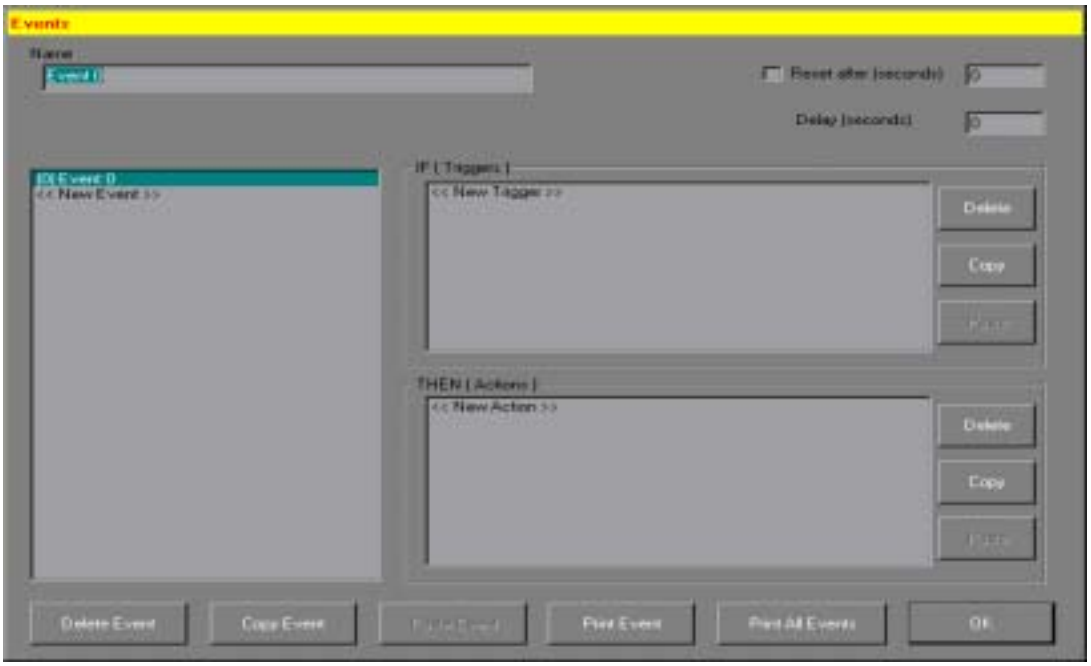
Neutral targeting: Allows neutral items to be targeted as though they were the enemy.

Guided Ammo: (No accurate description)

Hovering: Used for helicopters to put them into the air. Used in conjunction with a z height value. If z value is set at 0 the helicopter sits on the ground with blades turning.

Berserk: (No accurate description)

Section 7: Events and Area Triggers



Events
One of the most complex and powerful parts of the mission editing is creating events. With this tool, you will be able to set up a series of actions that only occur when certain conditions are triggered. Each event is set up as an IF-THEN statement; in other words IF a condition is met by the game, THEN the event takes place. An explanation of the trigger and event If-then statements can be found in Appendix B

Here is an example of how to set up a win condition for Comanche 4. Say you wanted the player to win the game if they destroy a certain building:

1. While in **Insert Mode**, place a building on the map then return to SELECT MODE.
2. Return to **Select Mode** and select the building.
3. Right click the building with the mouse and click on **Edit Item Attributes**. Select a unique **Group Number** under **AI Variables**.

4. Open the **Events** window and double click on **<< New Trigger >>** to open the **Event Triggers** window.
5. Select **Group** for the **Trigger Type**.
6. Select **All Destroyed** for **Trigger Condition**.
7. Under **Trigger Variables** select the building's group # that you just placed then hit **OK**.
8. Now double click on **<< New Action >>** to open the **Event Actions** window.
9. Select **Blue Win** for the **Action Type**.
10. Finally, for ease of identifying it, give the event a unique name at the top of the window such as "Win by destroying building".

Pre-Mission Event: This event will be triggered prior to the mission start.

Post-Mission Event: This event will be triggered after the mission has been complete.

Reset after (seconds): Once this event has been triggered, the mission can be set to automatically reset the trigger after a specified number of seconds has elapsed.

Delay (seconds): This is how many seconds must pass before the actions will execute, 0 delay means that the actions will be carried out as soon as the trigger conditions are met.

Area Triggers
An Area Trigger is used to set off an event when the player, or any unit, enters a specified area.
To set an Area Trigger go to **Edit** and then **Area Triggers**. Give a name to a trigger and click **OK**. Now enter Insert Mode and place two Area Trigger icons. The can be found under the **Markers** category.

Now double click on the info panel to open the **Item Attributes** screen. Under waypoints enter the number of the Area Trigger that you just renamed and click **OK**. A box will now appear using your two icons as corners. You may now set events by choosing **Group Area Trigger** as your trigger condition.

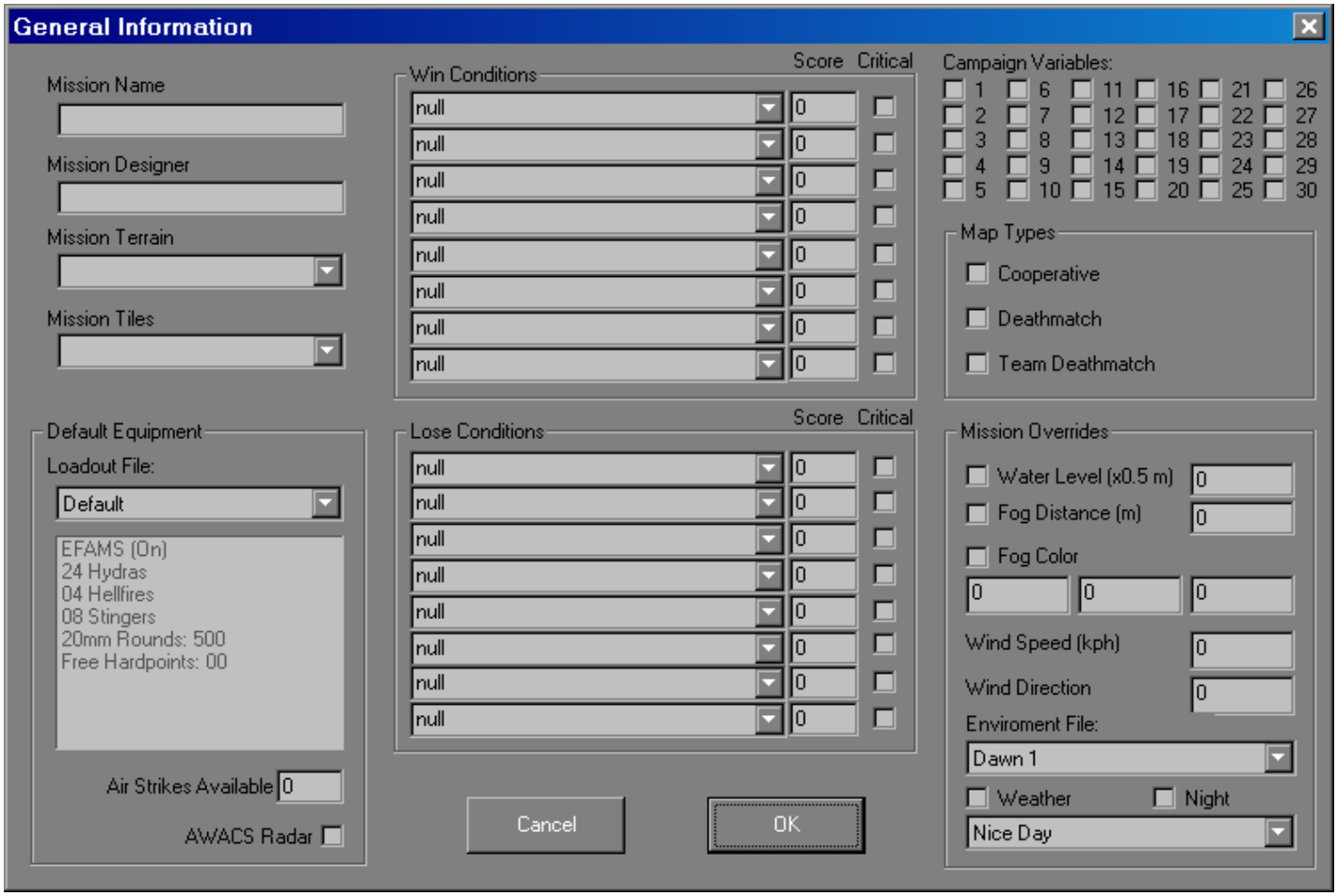
Subsection 7a: Particle Effects and Teleporting

Particle Effects:
Particle effects are very easy to use on your map. They are general used for effects. Once you have established your map you may want to add some particle effects. First thing to do is enter insert mode, and then from there you click Markers. Scroll down the list towards the bottom and click Teleport Target Marker. Click ok then close insert mode. At this point you place your cursor over the place on your map that you wish to create a particle effect and right click the mouse. This sets the Teleport Target Marker icon on the map. Highlight the icon then right click the item attributes window, this will bring up item attributes window. If you look to the lower right you should see the Particle Effects Name box. Press the down arrow and scroll down to the desired effect you want. In the waypoints box in the same window number your particle effect a number your not using for another effect other then 0. Example, number “1”, particle effect: “huge explosion”. Then in events set up an event to trigger the particle effect to go off when another event happens or a player reaches a certain waypoint, etc. Read above for the use of events.

Note: It’s appears that particle effects are not visible to other players in multiplayer missions, only to the host. They do however work very well in single player missions.

Teleporting:
Teleporting is used to teleport items from one location on you map to another. Used in conjunction with events teleporting can be a creative way to have vehicles or persons show up in a certain location upon a triggered event. Placing an item such as a vehicle somewhere on the map, off where it will not be seen in the general playing area. Now place a teleport marker in a location you wish for the item (vehicle(s) or person(s) to show up on queue.

Subsection 7b: Campaign Variables



Please note that campaign variables are not included in the original version of the editor that comes with Comanche 4. You can download the opened version of the Mission Editor "C4MEDc3.zip" that includes Campaign Variables from Checkpointdelta.com downloads section or other various sites that offer this version.

The **Campaign Variables** can be pre-set in the **General Information** section prior to the mission start and changed during the game or they can be turned on or turned off during the mission through the use of events. In the example that follows a campaign variable (#1) will be set when event 0 (Red Alert 1) has been triggered, we set Campaign Variable 1 to 1 (or True).

So we have now set a flag that we can use at a later time to kick off another event. This next screen will show you just how we use that variable to make something happen.

Here we are checking to see if Campaign Variable #1 has been set (is True) and if it is, then the result will be that the red team wins. So what does this all mean? In this example is means the following:
If the player enters the area designated in Event 0 (Red Alert 1), the AI will go to a Red Alert status. This will cause Campaign Variable #1 to be set to 1 (or True) and the Result of that being set will be that the Red Team (the AI) will win the game. None of the other events will occur because the player in the designated area. So the only way to win the game now will be to destroy all the targets from outside the target zone.

So maybe you are asking yourself what can I do with this? Think of the campaign variables as little switches on a control panel. Turning on a switch or series of switches will have an effect on something. Flipping a different set of switches could have a different effect.

The way you use these is up to you and what your mind can come up with.

Section 8: Exporting and Playing Missions

Remember to **Save** your work often. When you are at a point where you would like to test your mission, go to **Export Binary Mission** under the File menu. Your custom mission (.BMS file) must be located in the same directory as your Comanche 4 game for it to be seen by the program.

You are limited to the number of different types of items you can have in one mission. When you export, the tool will indicate if you have too many different items.

The following Warnings can show up when exporting the file:

• The total number of Decorations and Buildings (X) exceeds the maximum (1024)

• The total number of Vehicles and Objects (X) exceeds the maximum (1024)

• The total number of Markers (X) exceeds the maximum (512)

• The total number of People (X) exceeds the maximum (256)

The file will still export, but only the first Y objects of that type will be exported (Y being the maximum number allowed for each category). The number of objects should be reduced to the limit or unpredictable things could happen as a result of the excess items not being exported.

To play your custom mission, start your Comanche 4 game. In the **Single Player Archive Missions** or **Multiplayer Hosting Screen** (depending on the type of mission you created), select your mission from the list of games.

Section 9: Hints and Tips

• Plan out your mission before trying to create it in the Mission Editor. Having a good idea of what you want your mission to contain will make your work go much more efficiently.

• For your first mission, open the **sample.mis** mission and begin tweaking aspects of it. This mission was created to give you a head start on creating a mission. Looking at how a mission designer lays things out may help you understand specific portions of a working mission.

• For ease in viewing units, use the **Height Map** view (F2 key). The items will stand out more against this background.

• Using the layering functions can help save a lot of time when fine tuning missions. Putting items in **Layers** may seem like a hassle for smaller missions, but when more and more items are added, you will really wish that you had done it.

• When you right click the mouse with no items selected, you can choose **to View by Side**; this will turn all of the bad guy's items red, all of the good guy's items blue and all of the neutral items green for ease of game balancing.

• The best method for laying down waypoints is to insert one, change to select mode, set its waylist group, and change its distance to 0 (this causes people to follow the path exactly). Then copy that waypoint and paste it where you want the next to be. The waypoint numbers should automatically update in the order that you place them.

• When placing buildings, use the F3 view to find a good flat spot.

• A good rule of thumb for placing objects is whenever you want to place an object which has others like it already in the mission, it's simpler to copy and paste it, then modify the new one (rather than switch to insert mode and create a new one).

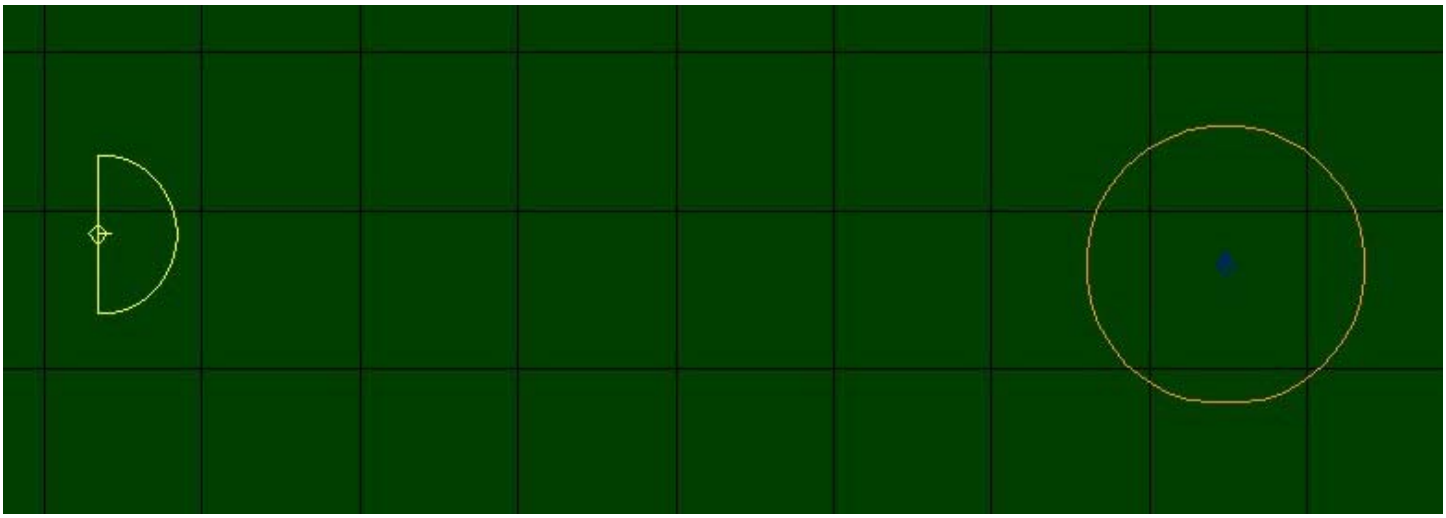
• When moving vehicles, remember to set up an event with both "change group AI" and "redirect group to waypoint".

• You can rotate several objects at the same time by selecting them, right clicking and selecting "Group Rotate" from the list.

Subsection 9a:User Tips

On Waypoints:
• If your using waypoints to move persons from point a to point b, lets say in a straight line with no turns involved, here's a tip to set a single waypoint for the person to go to without having to add another waypoint marker, i.e. waypoint 0,0 to waypoint 0,1. Just set a single waypoint (waypoint 0,0) out away from the person (figure below) to the point where you want him to go to and then set up the events getting him to go to that waypoint as you would when fallowing a regular waypoint. This saves on extra setting waypoints you don't need.

Just name the wp the same as you would a normal waypoint list and set up events the same way only you have one point to fallow. You may even set the Distance in the waypoints list to 0 and the person will still go right to that point. (Example below.)



Save, export and **test** your mission often!

Section 10: Basic Z Values

The fallowing values are base on approximate heights providing the building is on the flattest possible surface on you map. Z values vary greatly with terrain heights especial when placed over water.

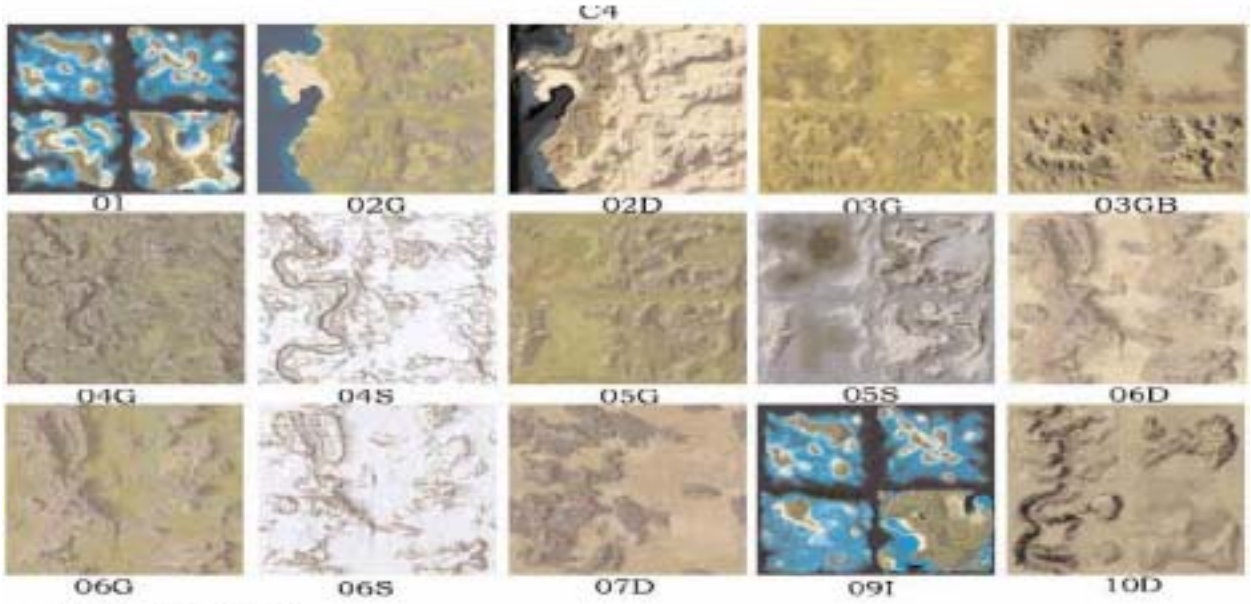
Insert Item Name	1st z value	2nd z value	Info Name
High Rise A Lobby	0	0	Eurhr1
High Rise A Middle	20	0	Eurhr1B
High Rise A Top	40	0	Eurhr1C
High Rise B Lobby	0	0	Eurhr3
High Rise B Middle	23	0	Eurhr3B
High Rise B Top	43	0	Eurhr3C

High Rise C Lobby	0	0	Eurhr2
High Rise C Middle	23	0	Eurhr2a
High Rise C Top	36	0	Eurhr2b
Man heights in towers			
Wooden Guard Tower top floor	10	0	Wgrdwr1
2nd floor	7	0	
1st floor	3	30000	
Jungle Style Tower	9	0	

Appendix A: Terrain Types

There is a pull down menu for your mission terrain in the General information window. Each image on this page represents the land and climate type for each of the missions listed at the bottom of the page.

Each selection will have a different configuration of landmasses, so look through them to find the one that suits your design. The letter indicates the terrain type (d=desert, g=grass, s=snow).



(1) C01m01\02\05
(2) C01m03\04\C02m03\C05m04\C06m04
(3) C02m01\04\C04m01\C05m05\C06m02
(7) C00m01\c04m04\05\c05m01\03
(4) C02m05\C03m02\C06m01
(5) C03m01\C03m04\C05m02
(6) C03m03\05\c04m02\03\C06m03\05
(9)C02m02
(10) Multiplayer missions

Appendix B: Trigger List

"IF" Statements

Trigger Types
Null: Always False. Can be used as a temporary placeholder.
Group: Triggers affected by Groups. Needs a Trigger Condition (below).
SSN: If the specified unit performs the trigger, the event will take place.
Event: True if the Event has been triggered.
2ndTime: True if this is the even numbered time the mission is played.

Squad Mates: True if Squad Mates are “on”.

Group Trigger Condition
Null: Nothing. Can be used as a temporary placeholder.
Has Targeted: True if Group X has targeted Group Y.
Group Shot Enemy: True if Group X shot at and hit Group Y.
Condition Red: True if Group has been alerted of the enemy presence.
Condition Yellow: True if Group has been put on yellow alert.
All Destroyed: True if all members of the Group are killed/destroyed.
Any Alive: True if any members of the Group are still alive. This will trigger immediately unless other conditions are set.
Lost X Units: True if X number of units in Group have been killed.
Group Reached Waypoint: True if Group reached waypoint.
All intact: True if Group has suffered no casualties.
Group Holds Item: True if Group is holding the specified item.
Has X Units: True if Group has X or more members alive.
Group Shot Enemy SSN: True if Group X shot at and hit a specific target.

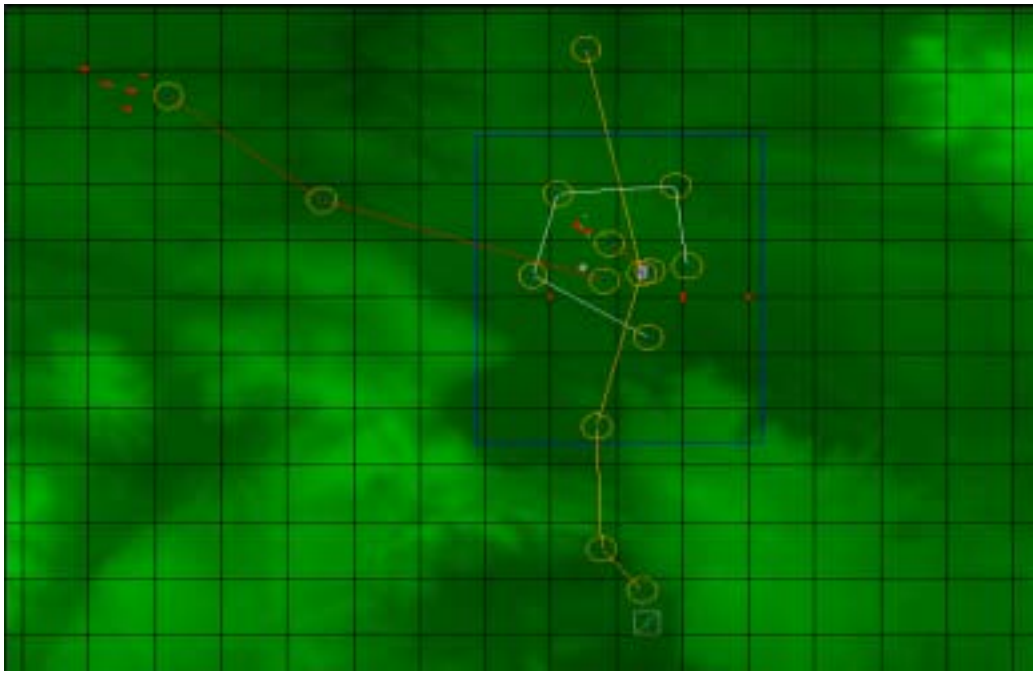
“THEN” Statements

Action Types
Null: Always False. Can be used as a temporary placeholder.
Redirect Group To: Make Group go to Waypoint X-X.
Kill Group: Immediately kill all members of Group.
Change Group AI: Change an AI attribute of Group (See AI subtypes below) to “On” or “Off”.
Vaporize Group: Remove the Group from the game.
Blue Win: Blue wins!
Red Win: Red wins!
Sub Goal Won: The sub goal has been accomplished.
Sub Goal Lost: The sub goal has been lost.
Group Change Team: Orders a group to switch sides.
Group Change Group: Orders a group to change to another group.
Group Teleport: Instantly moves a group to a specified teleport target.
Redirect SSN To: The specified unit will move to a specified point.
Kill SSN: Instantly kills a specified unit.
Change Single AI: Changes the behavior of a specific unit. (see Action Subtype AI, below)
Vaporize SSN: Takes a specific unit out of the game completely
SSN Change Team: Allows a single unit to change sides
SSN Change Group: Allows a single unit to change groups
Teleport SSN: Instantly moves a single unit to a specified teleport target.
Create Particle effects: Creates a particle effect at a specified teleport target.

Action Subtype: AI
Null: Nothing. Can be used as a temporary placeholder.
Red Alert: Be alert for enemies.
Yellow Alert: Heightened state of awareness.
Green Alert: Everything’s clear.
Driver’s Skill Level: Alters the driver’s skill level up or down.
Gunners Skill Level: Alters the driver’s skill level up or down.
AI State: Changes the alert status of the unit to green, yellow or red.
Combat Speed: Alters the speed of a unit’s speed when engaged in combat maneuvers.
Patrol Speed: Alters the speed of a unit’s speed when not engaged in combat.
Target SSN: tells the unit to target and attack a specified unit.
Use Waypoint Z: Forces aerial units to stay at their preset altitude.
Stop Using Waypoint Z: Allows aerial units to go to any altitude their AI takes them.

Appendix C: Sample mission

With the Comanche 4 Mission Editor open, select **File**, then **Open**, then select the “Sample.mis” file. This mission was built for you to have a head start on designing a mission. You can also use it to deconstruct how a NovaLogic Mission Designer builds a mission.



(The tutorial terrain is in the desert on an overcast and rainy day.)

A - Towards the bottom of the map is the starting position for the player. A "Start, player" icon as well as a "FARP" icon have been placed here. The orange lines are the Waypoint paths that the player is to follow.

B - Above the player start is the enemy base. A SA-8 SAM launcher, two anti-air cannons and a few soldiers protect it. All of these units are in the "Resistance" group. Eliminating hem all is a requirement for winning. Also at the base are two trucks that are part of a group called "Trucks 1".
The tent and tower are part of the "Structures" group.

C - Finally we have the "Reinforcements" group comprised of two armored vehicles and three supply trucks that make up the "Trucks 2" group. There are 5 events that occur in this mission:

1 - Red Alert - When the player crosses into the blue box, it sets off an area trigger that changes the Resistance units AI to Red Alert. This makes them more attentive to attacks, and faster to fire back.

2 - All supply trucks destroyed - When the player destroys the trucks in Trucks 1 and Trucks 2, a sub goal is accomplished.

3 - Destroy all buildings - The player must destroy the tent and the tower before completing the mission.

4 - Eliminate resistance - When the player eliminates all units in the "Resistance" and "Reinforcements" groups, the subgoal is won.

5 - Reach final waypoint - After everything is accomplished the player must reach the final waypoint to end the mission.

Try changing some variables of this mission, export it and play through it to see your changes. It will appear in the Quick Mission list.

Credits

Thanks to the following people for their support and contribution to the revising of this manual.

}RC{ All the gang at checkpointdelta.com (formally randomcoops.com)
Rustinsk
Col. Pappy
Charger
Dracula
Schvance
Ghost

End of Document